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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/572,695

03/21/2006

David Lowell Mcneely

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EXAMINER

GHULAMALI, QUTBUDDIN

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

09/01/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/572,695	<b>Applicant(s)</b> MCNEELY, DAVID LOWELL	
	<b>Examiner</b> Qutbuddin Ghulamali	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 17-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This action is responsive to amendment filed 6/11/2010.

#### ***Response to Remarks/Amendment***

2. Applicant's remarks/amendment, see page 5-6, filed 6/11/2010, have been fully considered but they are not persuasive. Applicant remarks with reference to amended limitation, Webster does not teach or disclose a first filter for filtering the first sample data modulated signal to produce a filtered first sample data modulated signal; a second filter for filtering the second sample data modulated signal to produce a filtered second sample data modulated signal. The examiner respectfully disagrees. Webster discloses a first filter having a first filtering characteristics (single carrier pulse shape digital filter 209) that receives the first sample data and a second filter (219) having the second filter characteristic that receives the second sample data modulated signal (fig. 2; col. 8, lines 55-67; col. 9, lines 37-46). There is therefore, explicitly showing for this recitation in Webster and applicant's remarks in view of the amendment is deemed not persuasive. The rejection is maintained.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent,

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except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6, 8, 17-20 are rejected under 35 U.S.C. 102 (e) as being anticipated by Webster et al (USP 7,170,880).

Regarding claims 1, 17, Webster discloses a digital radio frequency circuit (method) that creates a desired range in a frequency spectrum (multi-carrier system) comprising:

circuitry (fig. 2, mixed carrier signal transmitter 200 including a baseband transmitter 201) that produces a first sample data modulated signal having a first frequency and a first sample data clock rate (first sample rate) (col. 3, lines 33-38);

an up-sampler modulator that receives the first sample data modulated signal and produces a second sample data modulated signal having a second frequency and a second sample data clock rate (second sample rate) (col. 3, lines 48-67; col. 4, lines 1-3);

a first filter for filtering the first sample data modulated signal to produce a filtered first sample data modulated signal (single carrier pulse shape digital filter 209) that receives the first sample data (fig. 2; col. 8, lines 55-67; col. 9, lines 37-46);

a second filter (219) for filtering the the second sample data modulated signal to produce a filtered second sample data modulated signal (fig. 2; col. 8, lines 55-67; col. 9, lines 37-46);

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circuitry that receives the filtered first sample data modulated signal and the filtered second sample modulated signal (Mux, 213), the second sample data modulated signal up-sampled from the first sample data modulated signal, and delivers one of the first sample data modulated signal and the second sample modulated data signal for further processing depending on which sample data modulated signal exhibits desirable characteristics for a given operating environment (fig. 2) (col. 4, lines 17-43; col. 8, lines 46-67; col. 9, lines 1-6).

Regarding claim 2, Webster discloses a first filter having a first filtering characteristics (single carrier pulse shape digital filter 209) that receives the first sample data and a second filter (219) having the second filter characteristic that receives the second sample data modulated signal (fig. 2; col. 8, lines 55-67; col. 9, lines 37-46).

Regarding claims 3, 6, 18, 19, Webster discloses at least one of first filter and a second filter comprises finite impulse filter (FIR) (col. 9, lines 37-55; col. 13, lines 59-63) (poly phase filters or FIR filters are well known in the art).

Regarding claim 4, Webster discloses first frequency is less than one half of a frequency of digital data stream on which the first sample signal is based (col. 4, lines 17-43; col. 13, lines 42-58).

As to claim 5, Webster discloses the output of the first filter (209) and the output of the second filter (219, 226) are delivered to the circuitry (Mux. 213) that receives the first sample data modulated signal and the second sample data modulated signal (fig. 2; col. 9, lines 1-6).

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Regarding claim 8, Webster discloses RF circuit can comprise of an OFDM transmitter and a receiver (col. 6, lines 29-37).

As to claim 20, the steps recited are in order.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 7 rejected under 35 U.S.C. 103 (a) as being unpatentable over Webster et al (USP 7,170,880).

Regarding claim 7 Webster substantially all limitations of the claim above except does not explicitly show a first filter comprise 80 MSps FIR filter and a second filter comprises 160 MSps FIR filter. However, Webster discloses use of polyphase filters in the form of FIR filters configured for use at any arbitrary sampling rate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a filter of design 80 MSps and a filter of 160 MSps, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutbuddin Ghulamali whose telephone number is (571)-272-3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QG.  
August 24, 2010

/CHIEH M FAN/

Supervisory Patent Examiner, Art Unit 2611